

VOLUME CONTENTS

Number 1

D. A. REAY	1 Editorial
	Review Paper
C. F. MCDONALD	3 Compact buffer zone plate-fin IHX—the key component for high-temperature nuclear process heat realization with advanced MHR
A. GIDNER, Å. JERNQVIST and G. ALY	33 An energy efficient evaporation process for treating bleach plant effluents
I. OWEN, E. BUYRUK and H. BARROW	43 Theoretical analysis of the thermal resistance of non-uniform fouling on cross-flow heat exchanger tubes
M. R. CONDE	51 Estimation of thermophysical properties of lubricating oils and their solutions with refrigerants: an appraisal of existing methods
CHIH WU	63 Analysis of waste-heat thermoelectric power generators
J. L. M. FERNANDES	71 Fast evaluation of thermodynamic properties of superheated steam: a cubic equation of state
A. AKBARZADEH and T. WADOWSKI	81 Heat pipe-based cooling systems for photovoltaic cells under concentrated solar radiation
A. C. CAPUTO, G. CARDARELLI and P. M. PELAGAGGE	89 Analysis of heat recovery in gas-solid moving beds using a simulation approach
	101 Announcement
	I Calendar
	III PatentsALERT

Number 2

	Review Paper
T. Q. QURESHI and S. A. TASSOU	103 Variable-speed capacity control in refrigeration systems
F. M. PENNING and H. C. DE LANGE	115 Steam injection: analysis of a typical application
K. A. ANTONOPOULOS and E. D. ROGDAKIS	127 Performance of solar-driven ammonia-lithium nitrate and ammonia-sodium thiocyanate absorption systems operating as coolers or heat pumps in Athens
S. M. SAMI and C. TRIBES	149 An improved model for predicting the dynamic behaviour of adsorption systems
Y. S. H. NAJJAR	163 Enhancement of performance of gas turbine engines by inlet air cooling and cogeneration system

N. E. WIJEYSUNDERA	175	Performance limits of absorption cycles with external heat-transfer irreversibilities
		Technical Notes
C. TIRIS, M. TIRIS and I. DINCER	183	Experiments on a new small-scale solar dryer
G. N. TIWARI, S. KUMAR, P. B. SHARMA and M. EMRAN KHAN	189	Instantaneous thermal efficiency of an active solar still
	I	Calendar
	III	PatentsALERT

Number 3

D. A. REAY	193	Editorial
E. A. FOUMENY, A. KULKARNI and A. VATANI	195	Elucidation of pressure drop in packed-bed systems
N. H. AFGAN and M. G. CARVALHO	203	Knowledge-based expert system for fouling assessment of industrial heat exchangers
M. ARULANANTHAM and N. D. KAUSHIKA	209	Coupled radiative and conductive thermal transfers across transparent honeycomb insulation materials
A. E. CONRADIE and D. G. KRÖGER	219	Performance evaluation of dry-cooling systems for power plant applications
J. KUCK	233	Efficiency of vapour-pump-equipped condensing boilers
J. S. CURRIE, R. E. LOW and C. L. PRITCHARD	245	The performance of novel compact heat exchangers with highly extended surfaces
C. Z. ZHUO and C. H. M. MACHIELSEN	255	Performance of high-temperature absorption heat transformers using Alkitate as the working pair
A. ONG'IRO, V. ISMET UGURSAL, A. M. AL TAWHEEL and G. LAJEUNESSE	263	Thermodynamic simulation and evaluation of a steam CHP plant using ASPEN Plus
		Short Communication
V. E. STYLIARAS	273	The use of an absorber-generator heat exchanger in power production
	277	Announcements
	I	Calendar
	III	PatentsALERT

Number 4

J. L. WOLPERT and S. B. RIFFAT	281	Solar-powered Rankine system for domestic applications
--------------------------------	-----	--

S. B. RIFFAT, G. GAN and S. SMITH	291	Computational fluid dynamics applied to ejector heat pumps
C. WU, L. CHEN, F. SUN and W. CHEN	299	General performance characteristics of a finite-speed Carnot refrigerator
X. JIA, C. P. TSO, P. G. JOLLY and Y. W. WONG	305	Distributed study of air temperature inside a dry-expansion evaporator
M. MOSTAFAVI and B. AGNEW	313	The effect of ambient temperature on the surface area of components of an air- cooled lithium bromide/water absorption unit
A. A. AL-HADDAD, E. ENAYA and M. A. FAHIM	321	Performance of a thermodynamic water pump
A. CORONAS, M. VALLÉS, S. K. CHAUDHARI and K. R. PATIL	335	Absorption heat pump with the TFE-TEGDME and TFE-H ₂ O-TEGDME systems
M. NGUYEN, S. B. RIFFAT and D. WHITMAN	347	Solar/gas-driven absorption heat-pump systems

Number 5

Applications of Adsorption in Energy Transfer and Storage Symposium

O. TALU and F. MEUNIER	357	Editorial
K. J. CHANG and O. TALU	359	Behavior and performance of adsorptive natural gas storage cylinders during discharge
P. MALBRUNOT, D. VIDAL and J. VERMESSE	375	Storage of gases at room temperature by adsorption at high pressure
M.-G. OLIVIER, J. BOUGARD and R. JADOT	383	Adsorption of propane, propylene and propadiene on activated carbon
D. J. MILES and S. V. SHELTON	389	Design and testing of a solid-sorption heat-pump system
M. PONS, D. LAURENT and F. MEUNIER	395	Experimental temperature fronts for adsorptive heat pump applications
N. BEN AMAR, L. M. SUN and F. MEUNIER	405	Numerical analysis of adsorptive tempera- ture wave regenerative heat pump
R. E. CRITOPH and R. THORPE	419	Momentum and heat transfer by forced convection in fixed beds of granular active carbon
R. E. CRITOPH	429	Performance estimation of convective thermal wave adsorption cycles
E. JING HU	439	Simulated results of a non-valve, daily- cycled, solar-powered carbon/methanol refrigerator with a tubular solar collector
W. A. BELDING, M. P. F. DELMAS and W. D. HOLEMAN	447	Desiccant aging and its effects on desiccant cooling system performance

I Calendar

III PatentsALERT

Number 6

- | | | |
|---|-----|--|
| S. M. SAMI and B. SONG | 461 | Heat transfer and pressure drop characteristics of HFC quaternary refrigerant mixtures inside horizontal enhanced surface tubing |
| P. M. CHAUHAN,
C. CHOUDHURY and H. P. GARG | 475 | Comparative performance of coriander dryer coupled to solar air heater and solar air-heater-cum-rockbed storage |
| S. KÜRÜM and Z. FONYO | 487 | Comparative study of recovering acetic acid with energy integrated schemes |
| F. STAINE and D. FAVRAT | 497 | Energy integration of industrial processes based on the pinch analysis method extended to include exergy factors |
| M. MOSTAFAVI and B. AGNEW | 509 | Thermodynamic analysis of combined diesel engine and absorption refrigeration unit—supercharged engine |
| M. MOSTAFAVI and B. AGNEW | 515 | The impact of ambient temperature on lithium-bromide/water absorption machine performance |
| M. A. DARWISH
and H. EL-DESSOUKY | 523 | The heat recovery thermal vapour-compression desalting sytem: a comparison with other thermal desalination processes |
| P. A. PILAVACHI | 539 | The role of the European Union in promoting energy efficiency in the paper industry |
| | 549 | Announcement |

Number 7

- | | | |
|--|-----|---|
| R. M. LAZZARIN, G. A. LONGO
and P. C. ROMAGNONI | 551 | A new HVAC system based on cogeneration by an i.c. engine |
| R. M. LAZZARIN
and G. A. LONGO | 561 | Comparison of heat recovery systems in public indoor swimming pools |
| WEN-LU WENG
and BIN-CHANG HUANG | 571 | Thermodynamic performances of non-CFC working fluids in heat-pump cycles |
| V. MAIZZA and A. MAIZZA | 579 | Working fluids in non-steady flows for waste energy recovery systems |
| S. GARIMELLA,
R. N. CHRISTENSEN and D. LACY | 591 | Performance evaluation of a generator-absorber heat-exchange heat pump |
| A. R. FIGUEIREDO
and A. M. RAIMUNDO | 605 | Analysis of the performances of heat exchangers used in hot-water stores |
| A. KÜRKLÜ, A. WHELDON
and P. HADLEY | 613 | Mathematical modelling of the thermal performance of a phase-change material (PCM) store: cooling cycle |

Numbers 8/9

- | | | |
|---|-----|--|
| C. F. MCDONALD
and D. G. WILSON | 635 | Review Paper
The utilization of recuperated and regenerated engine cycles for high-efficiency gas turbines in the 21st Century |
| Y.-S. LEE, Y.-P. LEE and Y. LEE | 655 | The effects of surface tension and wire diameter on the rise velocity of a bubble in a miniature two-phase closed thermosyphon |
| R. DORANTES, C. A. ESTRADA
and I. PILATOWSKY | 669 | Mathematical simulation of a solar ejector-compression refrigeration system |
| B. H. KANG and A. YABE | 677 | Performance analysis of a metal-hydride heat transformer for waste heat recovery |
| S. M. SAMI and A. DAHMANI | 691 | Numerical prediction of dynamic performance of vapour-compression heat pump using new HFC alternatives to HCFC-22 |
| A. STEGOU-SAGIA | 707 | A computational method for the methyl amine/H ₂ gas mixture concentrations in methyl amine/H ₂ O/H ₂ absorption refrigeration units |
| CHENG-SHU KUO
and CHI-CHUAN WANG | 719 | Horizontal flow boiling of R22 and R407C in a 9.52 mm micro-fin tube |
| M. MOSTAFAVI and B. AGNEW | 733 | Thermodynamic analysis of combined diesel engine and absorption unit—turbo-charged engine with intercooling |
| K. DUVENHAGE,
J. A. VERMEULEN, C. J. MEYER
and D. G. KRÖGER | 741 | Flow distortions at the fan inlet of forced-draught air-cooled heat exchangers |
| K. A. R. ISMAIL
and M. A. ZANARDI | 753 | A steady-state model for heat pipes of circular or rectangular cross-sections |
| Y. S. H. NAJJAR | 769 | Relative effect of pressure losses and inefficiencies of turbomachines on the performance of the heat-exchange gas turbine cycle |

Number 10

- | | |
|--|--|
| J. C. HO and
N. E. WIJEYSUNDERA | 777 Study of a compact spiral-coil cooling and
dehumidifying heat exchanger |
| A. A. KINSARA, M. M. ELSAYED
and O. M. AL-RABGHI | 791 Proposed energy-efficient air-condition-
ing system using liquid desiccant |
| Z. X. GONG and
A. S. MUJUMDAR | 807 Cyclic heat transfer in a novel storage unit
of multiple phase change materials |
| CHUNG-BIAU CHIOU,
DING-CHONG LU and
CHI-CHUAN WANG | 817 Analysis of evaporation of non-azeotropic
refrigerants in a horizontal tube |
| S.-I. GUSTAFSSON | 829 Economic benefits from load management
in a carpentry factory |
| N. AFGAN, M. G. CARVALHO
and P. COELHO | 835 Concept of expert system for boiler foul-
ing assessment |
| M. MOSTAFAVI and B. AGNEW | Technical Note
845 Thermodynamic analysis of combined
diesel engine and absorption unit—turbo-
charged engine |
| | 851 Announcements |
| | I Calendar |

Number 11

- | | |
|--|---|
| Y. KATO, N. YAMASHITA,
K. KOBAYASHI and
Y. YOSHIZAWA | 853 Kinetic study of the hydration of mag-
nesium oxide for a chemical heat pump |
| P. AVANTI, M. ARULANANTHAM
and N. D. KAUSHIKA | 863 Solar thermal analysis of transparent-
honeycomb-insulated ground collector-
storage system |
| S. ISTRIA,
J. CASTAING-LASVIGNOTTES
and P. NEVEU | 875 Energetic analysis, application field and
performance of a new thermochemical
sorption cycle: the multisalt system |
| R. E. CRITOPH | 891 Evaluation of alternative refrigerant-
adsorbent pairs for refrigeration cycles |
| JINCAN CHEN and CHIH WU | 901 The $R-\epsilon$ characteristics of a three-heat-
source refrigeration cycle |
| R. DOMAŃSKI and G. FELLAH | 907 Exergy analysis for the evaluation of a
thermal storage system employing PCMs
with different melting temperatures |
| M. MOSTAFAVI and B. AGNEW | Technical Note
921 Thermodynamic analysis of combined
diesel engine and absorption refrigeration
unit—supercharged engine with inter-
cooling |
| | I Calendar |

Number 12

EUROTHERM Seminar No. 41: Exergoeconomical Analysis and Optimization in Chemical Engineering

K. F. KNOCHE	931 Editorial
A. VALERO, M. A. LOZANO and J. L. BARTOLOMÉ	933 On-line monitoring of power-plant performance, using exergetic cost techniques
C. A. FRANGOPOULOS, A. I. LYGEROS, C. T. MARKOU and P. KALORITIS	949 Thermoeconomic operation optimization of the Hellenic Aspropyrgos Refinery combined-cycle cogeneration system
U. BUSKIES	959 The efficiency of coal-fired combined-cycle powerplants
	Regular Papers
G. P. XU, Y. Q. DAI, K. W. TOU and C. P. TSO	975 Theoretical analysis and optimization of a double-effect series-flow-type absorption chiller
LINGEN CHEN, CHIH WU and FENGRUI SUN	989 Heat transfer effect on the specific cooling load of refrigerators
	I Calendar
	III PatentsALERT
	XI Title Page, Volume Contents and Author Index for Volume 16